

**Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services**

**STATEMENT OF BASIS**

**Dolet Hills Power Station  
CLECO Corporation  
Mansfield, DeSoto Parish, Louisiana  
Agency Interest Number: 585  
Activity Number: PER19960001 and PER20040001  
Draft Permit 0760-00001-V0 and 0760-00001-IV0**

**I. APPLICANT:**

**Company:**  
CLECO Corporation  
2030 Donahue Ferry Road  
Pineville, LA 71360

**Facility:**  
Dolet Hills Power Station

Approximate UTM coordinates are 446.227 kilometers East and 3543.814 kilometers North, Zone 15

**II. FACILITY AND CURRENT PERMIT STATUS:**

CLECO Corporation's Dolet Hills Power Station is an existing power station. The facility currently operates under Permit No. 1039, issued September 26, 1978. Dolet Hills Power Station also operates under PSD permit PSD-LA-117 (M-4) issued July 10, 1988, and amended on June 12, 1996, October 16, 1996, and October 17, 2002. Dolet Hills is also operating under Acid Rain Permit 0760-00001-IV1 issued on September 29, 1998.

PSD-LA-117, issued September 1, 1981, authorized construction of a 1440 MW capacity coal-fired steam generating facility. On August 1, 1984, PSD-LA-117 (M-1) was issued modifying an emission monitoring procedure. On September 30, 1986, PSD-LA-117 (M-2) was issued modifying an emission monitoring procedure. On September 15, 1987, PSD-LA-117 (M-3) was issued modifying the Specific Condition No. 7(e) of PSD-LA-117 (M-2). On July 11, 1988, PSD-LA-117 (M-4) was issued changing the opacity limits to 20% opacity except for one six minute period per hour of not more than 27%. There were administrative amendments changing specific Condition 4 including propane as an additional fuel to be used during flame stabilization and start-up, deleting all references to Unit 2 (that was never built), clarifying that CLECO will be the sole operator of the plant, and changing the maximum heat input of Unit 1 to 7,600 MMBtu/hr due to recalculations per 40 CFR 75, Appendix F, Section 5.2.1. The purpose of the

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2002 administrative amendment was to show consistency between the heat input in the PSD permit and the CEMS Part 75 heat input calculation. The letter dated 10/17/02 from the LDEQ inadvertently shows the original heat input as 6281 when it is actually 6821; this is a typo. A footnote was added explaining that the facility shall comply with the more stringent limit.

### **III. PROPOSED PERMIT / PROJECT INFORMATION:**

#### **Proposed Permit**

A permit application and Emission Inventory Questionnaire were submitted by CLECO Corporation on October 9, 1996. This permit is based on a complete resubmittal of the application and EIQ dated June 17, 2003. Additional information dated May 24, 2004, August 27, 2004, and September 21, 2004, was also received.

#### **Project Description**

Dolet Hills Power Station is a fossil fuel-fired steam/electric generation facility. Fossil fuels are fired in a boiler to produce steam that is used to power a steam turbine/electric generator. Unit 1 Boiler burns natural gas, propane, No. 2 fuel oil, and lignite.

Emission sources include the boiler; tanks; coal and fly ash handling, storage, and transfer; erosion; fugitive dust from roads; and standby diesel-fired fire pump and generator engines. Particulate emissions result from coal and fly ash handling, storage, and transfer. Most fly ash is marketed. Fly ash not sold is managed in an onsite landfill.

An electrostatic precipitator and a flue gas desulfurization system control particulate matter (PM<sub>10</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions from the Unit 1 boiler. Water sprays and chemical wetting agents are used for dust suppression. Coal conveyors are enclosed. Baghouses and cyclones are used to control particulate emissions from the coal and fly ash silos and fly ash loading. For emission source 1-78, Unit 1 Boiler, emissions of sulfur dioxide, nitrogen oxides and carbon dioxide or oxygen are measured continuously via CEMS which meet the requirements of the Acid Rain Program, 40 CFR 72. Stack opacity is monitored continuously using a COMS also required by NSPS Subpart D.

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Lignite is delivered from a nearby surface mine. Limestone is delivered by railcar. Lignite and coal handling are sources of particulate emissions. There are numerous tanks and material handling equipment associated with this facility. Startup and Shutdown emissions are accounted for and permitted under Unit 1.

**Permitted Air Emissions**

The estimated permitted emissions from the facility in tons per year are as follows:  
(Increase in VOC is due to existing but previously unpermitted emissions.)

<b>Pollutant</b>	<b>Before</b>	<b>After</b>	<b>Change</b>
PM <sub>10</sub>	2,638.95	2,618.79	-20.16
SO <sub>2</sub>	35,898.48	35,907.50	-9.02
NO <sub>x</sub>	18,381.55	17,949.53	-432.02
CO	2,519.38	2,503.62	-15.76
VOC	-	98.22	+98.22

**VOC LAC 33:III. Chapter 51 Toxic Air Pollutants (TAPs):**

<b>Pollutant</b>	<b>Emissions</b>
Benzene	3.138
Ethylbenzene	0.228
Formaldehyde	0.847
Hexane	8.502
Toluene	0.581
Xylene	0.090
Acetaldehyde	1.375
Acetophenone	0.035
Acrolein	0.700
Benzyl Chloride	1.691
Bis(2-ethylhexyl)phthalate	0.176
Bromoform	0.092
Carbon disulfide	0.315
2-Chloroacetophenone	0.018
Chlorobenzene	0.053
Chloroform	0.140
Cumene	0.013
Cyanide compounds	6.031

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VOC LAC 33:III. Chapter 51 Toxic Air Pollutants (TAPs):

<u>Pollutant</u>	<u>Emissions</u>
Dimethyl Sulfate	0.114
Dichlorobenzene	0.004
2,4-dinitrotoluene	0.001
Ethyl Chloride	0.101
Ethylene dichloride	0.096
Ethylene dibromide	0.004
Isophorone	1.397
Methyl Bromide	0.386
Methyl Chloride	1.279
Methyl ethyl ketone	0.941
Methyl Hydrazine	0.412
Methyl methacrylate	0.048
Methyl tert butyl ether	0.083
Naphthalene	0.031
Phenol	0.039
Propionaldehyde	0.915
Styrene	0.061
Vinyl Acetate	0.018
PAH's	0.158
<b>Total</b>	<b>30.218</b>

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**Non-VOC TAP Speciation:**

<b>Pollutant</b>	<b>Emissions</b>
Antimony	0.127
Arsenic	1.165
Barium	3.900
Beryllium	0.053
Cadmium	0.123
Chromium VI	0.193
Copper	0.197
Lead	1.011
Manganese	1.209
Mercury	0.201
Nickel	3.421
Selenium	3.136
Silver	0.004
Sulfuric Acid	26.54
Thallium	0.250
HCl	486.18
HF	71.83
Zinc	1.017
1,1,1-Trichloroethane	0.048
Ammonia	1.095
Tetrachloroethylene	0.104
<b>Total</b>	<b>601.804</b>

**Other VOC (TPY):**

**76.32**

**Regulatory Analysis**

This permit was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, and New Source Performance Standards (NSPS). NESHAP and Prevention of Significant Deterioration do not apply.

This facility is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51; however, electric utility steam generating units are currently exempted per LAC 33:III.5105.B.2.

LDEQ is actively planning to implement EPA's May 18, 2005 Clean Air Mercury Rule (CAMR). This rule, along with EPA's Clean Air Interstate Rule (CAIR), will require extensive resources on the part of the department. In accordance with 40 CFR 60.4141(a), by October 31, 2006, LDEQ will submit to the Administrator the Hg allowance allocations in a format prescribed by the Administrator and in accordance with § 60.4142(a) and (b), for the control periods in 2010, 2011, 2012, 2013, and 2014.

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**Louisiana Air Quality Regulations and NSPS**

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit.

**Prevention of Significant Deterioration Applicability**

PSD does not apply. No physical changes or changes in the method of operation are being proposed.

**General Condition XVII Activities**

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

**Insignificant Activities**

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

**IV. PERMIT SHIELDS**

A permit shield is not a component of the draft permit.

**V. PERIODIC MONITORING**

For Emission Source 1-78, Unit 1 Boiler, emissions of sulfur dioxide, nitrogen oxides and carbon dioxide or oxygen are measured continuously via CEMS which meet the requirements of the Acid Rain Program, 40 CFR 72. Similarly, stack opacity is monitored continuously using a COMS also required by NSPS Subpart D. Also a continuous pH meter to control the pH level of the scrubber liquid this is required based on PSD-LA-117 (M-4) and LAC 33:III.509.

Particulate matter, carbon monoxide and VOC emissions will be verified by stack testing.

For Emission Sources 1-96 and 2-96, Unit Silo Dust Collectors, weekly visual checks on filter vents and filter elements is required by LAC 33:III.501.C.6

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VI. APPLICABILITY AND EXEMPTIONS OF SELECTED SUBJECT ITEMS		
ID No:	Requirement	Notes
Facility Wide	Chemical Accident Prevention and Minimization of Consequences, LAC 33:III.Chapter 59 Chemical Accident Prevention Provisions, 40 CFR 68	Does Not Apply- facility does not store listed chemicals above the threshold quantities, except propane, which is excluded from regulation when it is used as a fuel or held for sale as a fuel. [§68.126]
1-78 Unit 1 Boiler	Comprehensive TAP Emission Control Program, LAC 33:III.5109- State Only	Exempt- electric utility steam generating unit are exempt per LAC 33:III.5105.B.2
	NSPS Subpart Da-Standards of Performance for Steam Generating Units.	Does not apply. Subpart Da is not applicable since no construction, modification, or reconstruction has occurred after September 18, 1978. The changes to the permit did not meet the definition of a modification per 40 CFR 60.14(h).
4-78 Fuel Oil Storage Tank	Storage of Volatile Organic Compounds, LAC 33:III.2103	Does not apply- Maximum TVP<1.5 psia
	NSPS Subpart Kb- Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels	Does not apply. Maximum true vapor pressure less than 3.5 kPa. 60.110b(b)
5-96 Cooling Tower	NESHAP 40 CFR 63 Subpart Q- Industrial Process Cooling Towers, 40 CFR 63.400	Facility does not use chromium-based water treatment chemicals.
6-96 - 9-96 Diesel Tanks 1-4	Storage of Volatile Organic Compounds, LAC 33:III.2103	Does Not Apply- maximum TVP<1.5 psia
6-96 - 9-96 Diesel Tanks 1-4	NSPS Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels, 40 CFR 60.110b	Does not apply - Tank Capacities < 19,815 gallons.

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**VI. APPLICABILITY AND EXEMPTIONS OF SELECTED SUBJECT ITEMS**

ID No:	Requirement	Notes
10-96 Gasoline Tank	NSPS Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels, 40 CFR 60.110b	Does not apply -- tank capacities < 19,815 gallons.

**VII. STREAMLINED REQUIREMENTS**

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Dolet Hills Power Station	None		



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**Glossary**

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAM - Compliance Assurance Monitoring rule – A federal air regulation under 40 CFR Part 64

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide (H<sub>2</sub>S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

NESHAP - National Emission Standards for Hazardous Air Pollutants – Toxic air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63

Nitrogen Oxides (NO<sub>x</sub>) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to

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ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

NSPS - New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH<sub>4</sub>), Ethane (C<sub>2</sub>H<sub>6</sub>), Carbon Disulfide (CS<sub>2</sub>)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit:  $\geq 10$  tons per year of any toxic air pollutant;  $\geq 25$  tons of total toxic air pollutants; and  $\geq 100$  tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM<sub>10</sub>- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO<sub>2</sub>) – An oxide of sulphur.

TAP - Toxic Air Pollutant (LDEQ acronym for air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.